

Amendments to the Claims:

This following listing of claims replaces all prior versions, and listings, of claims in the above-captioned application.

Listing of Claims:

Claim 1 (Currently amended): A method of manufacturing a vertical feed through in a substrate comprising:

providing an electrical contact cap in a hole in a substrate, wherein the cap extends partially into the hole and partially outside the hole, and a portion of the cap inside the hole extends across the hole forming a barrier portion inside the hole closing the hole,

wherein a portion of the hole is open for insertion of a probe on a second substrate to electrically contact the probe with the barrier portion of the cap in the hole.

Claim 2 (Original): The method of claim 1 wherein the step of providing an electrical contact cap in a hole of the substrate comprises heating the substrate made up of a green sheet of ceramic to form a ceramic material around the cap.

Claim 3 (Original): The method of claim 2, wherein the cap is pressed into the hole formed in the green sheet prior to heating.

Claim 4 (Original): The method of claim 1 wherein the cap includes an opening with a resilient spring probe inserted in the opening.

Claim 5 (Original): The method of claim 1 further comprising plating at least a portion of the hole with an electrically conductive material.

Claim 6 (Original): The method of claim 1 wherein the cap comprises a laterally protruding portion extending into the substrate to hold the cap within the substrate.

Claim 7 (Currently amended): The method of claim 1 wherein the cap comprises a first cylindrical region extending outside the substrate having a greater diameter than a second cylindrical region provided in the hole of the substrate, wherein [[a]] laterally protruding regions extend from the second cylindrical region to secure the cap within the substrate.

Claims 8-20 (Canceled)

Claim 21 (New): A method of manufacturing a vertical feed through in a substrate, the method comprising:

- forming through the substrate a hole with first and second ends; and
- disposing an electrical contact cap in the first end of the hole, the cap extending partially into the hole and terminating inside the hole closing the hole intermediate the first and second ends thereof, the second end of the hole being open and capable of receiving a free end of a probe on a second substrate to contact electrically the cap inside the hole.

Claim 22 (New): The method of claim 21, wherein the forming is performed before the disposing.

Claim 23 (New): The method of claim 21, wherein the forming is performed simultaneously with the disposing.

Claim 24 (New): The method of claim 23, wherein the substrate is injection molded about the cap.

Claim 25 (New): The method of claim 21, wherein the disposing comprises heating a green sheet of ceramic to form around the cap a substrate of ceramic material.

Claim 26 (New): The method of claim 25, wherein the disposing further comprises pressing the cap into a hole prior to the step of heating.

Claim 27 (New): The method of claim 21, wherein an intermediate portion of the cap circumferentially engages the walls of the hole adjacent the first end thereof.

Claim 28 (New): The method of claim 27, wherein the cap further comprises a lateral protruding portion extending from on the intermediate portion into the substrate to retain the cap in the hole.

Claim 29 (New): The method of claim 21, wherein the cap is retained in the hole using an adhesive.

Claim 30 (New): The method of claim 21, wherein the cap is retained in the hole using solder.

Claim 31 (New): The method of claim 21, further comprising:
 providing an opening in the side of the cap exposed outside the substrate; and
 inserting into the opening a resilient spring probe.

Claim 32 (New): The method of claim 21, further comprising plating at least a portion of the hole with an electrically conductive material.

Claim 33 (New): The method of claim 21, wherein the cap further comprises an enlarged portion disposed on the substrate adjacent the first end of the hole.

Claim 34 (New): The method of claim 33, wherein the enlarged portion of the cap encircles the first end of the hole.

Claim 35 (New): The method of claim 21, wherein the lateral cross section of the portion of the cap within the hole closely conforms to the lateral cross section of the first end of the hole.

Claim 36 (New): The method of claim 35, wherein the lateral cross section of the portion of the cap within the hole is circular.